Walking-Working Surfaces

Introduction

- Slips, trips and falls cause:
  - the majority of general industry accidents
  - 15 percent of all accidental deaths
  - more fatalities than all other causes but motor vehicles
- OSHA's standards for walking and working surfaces apply to all permanent places of employment, except where only domestic, mining, or agricultural work is performed

General Requirements
Housekeeping

- Workplaces must be kept clean, orderly, and sanitary
- Workroom floors must be maintained as clean and dry as possible

General Requirements
Aisles and Passageways

- Keep clear and move obstructions that could create a hazard
- Mark permanent aisles and passageways
- Aisles must be sufficiently wide where mechanical handling equipment is used

General Requirements
Covers and Guardrails

Provide covers and/or guardrails to protect workers from the hazards of open pits, tanks, vats, ditches, and the like.

General Requirements
Floor Loading Protection

- Load ratings must be marked on plates and be conspicuously posted
- Do not exceed the load rating limit

Floor Opening

An opening measuring 12 inches or more in its least dimension in a floor, platform, pavement, or yard, through which persons may fall.

Guarding Floor Openings Definitions

- **Standard railing.** Consists of top rail, mid rail, and posts. Height from the upper surface of top rail to floor level is 42 inches. Mid rail height is 21 inches.
- **Standard toeboard.** 4 inches high, with not more than ¼-inch clearance above the floor.

Stairway Floor Openings

Must be guarded by a standard railing on all exposed sides (except at entrance).

Ladderway Floor Openings

- Guard with a standard railing with toeboard on all exposed sides (except entrance)
- Guard the passage through the railing with a swinging gate or offset it to prevent someone from walking into the opening

Floor Hole

- An opening measuring less than 12 in. but more than 1 in. in its least dimension, in a floor, platform, pavement or yard, through which materials but not persons may fall
- Every floor hole into which persons can accidentally walk must be guarded by either:
  - standard railing with toeboard
  - cover

Wall Openings

- Opening at least 30 in. high and 18 in. wide, in a wall or partition, through which persons may fall
- Wall openings from which there is a drop of more than 4 feet must be guarded

Open-Sided Floors and Platforms

- Open-sided floors or platforms 4 feet or more above adjacent floor or ground level must be guarded by a standard railing (or equivalent) on all open sides, except where there is an entrance to a ramp, stairway, or fixed ladder
- A toeboard is required when, beneath the open sides:
  - persons can pass,
  - there is moving machinery, or
  - there is equipment with which falling materials could create a hazard

Unguarded Platform

Open-Sided Floors, Walkways, Platforms, and Runways

Regardless of height, a standard railing and toeboard must be used to guard:
- open-sided floors
- walkways
- platforms, or
- runways

above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards.

Stairways

Flights of stairs with four or more risers must have standard stair railings or handrails.

Fixed Industrial Stairs

- Treads must be slip resistant with uniform rise height and tread width
- Must be able to carry 5 times expected load; minimum of 1000 pounds
- Minimum width of 22 inches

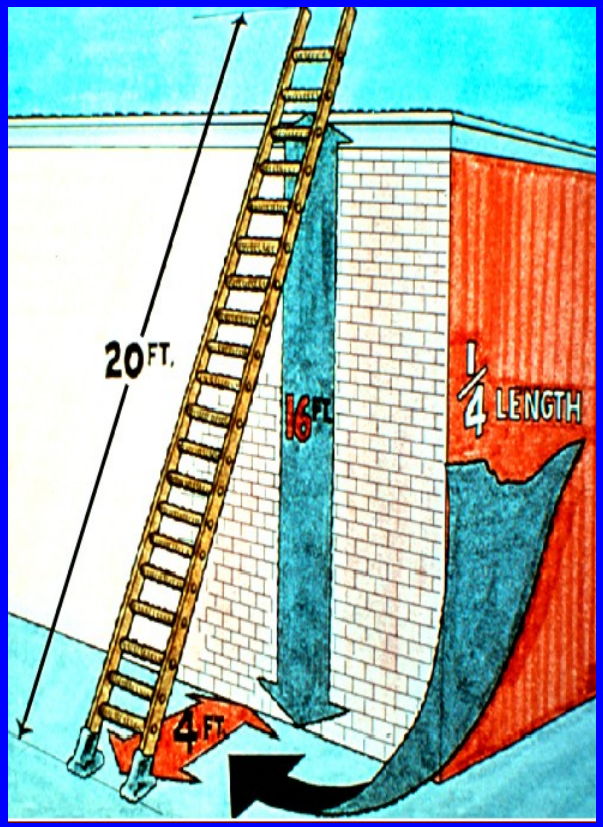
Violation here – several steps bent and damaged

Portable Ladders

- Ladders used to gain access to a roof or other area must extend at least 3 feet above the point of support
- Withdraw defective ladders from service and tag or mark "Dangerous, Do Not Use“
- Never use ladders in a horizontal position as scaffolds or work platforms
- Never use metal ladders near electrical equipment

Ladder Angle
Portable Rung and Cleat Ladders

Use at angle where the horizontal distance from the top support to the foot of the ladder is ¼ the working length of the ladder (length along ladder between the foot and top support).

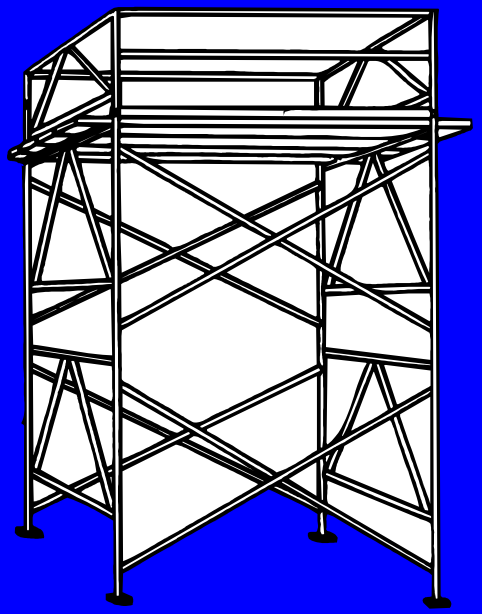


Fixed Ladders

- Permanently attached to a structure, building or equipment
- Cages or wells required if longer than 20 ft. to a maximum unbroken length of 30 ft.
- Ladder safety devices may be used on tower, water tank and chimney ladders over 20 ft. in unbroken length instead of cage protection

Scaffolding
General Requirements

- Must be capable of supporting four times the maximum intended load
- Do not alter or move while in use
- Protect workers on scaffolds from overhead hazards
- If higher than 10 ft., use guardrails, midrails and toeboards
- Use wire mesh between the toeboard and guardrail if people work or pass underneath
- Must be equipped with access ladder or equivalent



Summary

- Slips, trips, and falls constitute the majority of general industry accidents
- OSHA's standards for walking and working surfaces include requirements for housekeeping, guarding floor and wall openings and holes, industrial stairs and ladders
- Keeping working surfaces clean, dry, and uncluttered can prevent many workplace accidents